AMENDMENT TO THE CLAIMS

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1. (currently amended) A ~~C~~circuit arrangement for controlling a brushless, permanently excited direct current motor~~(BLDC motor, 1)~~, the motor having a rotor, a stator and a plurality of ~~P~~phases~~(P1, P2, to Pn)~~ ~~with~~ having in each case an external phase connection~~(V1, V2, to Vn)~~, the arrangement comprising:

- ~~having~~ a power control unit~~(6),~~ to which the phases~~ and~~, a power DC voltage source ~~(5)~~ and a main control unit are connected~~ and by~~,
- such that the main control unit, which is also electrically connected to the phase connections, controls the power control unit in accordance with an electrical induction signal from only one of the phases ~~are electrically connected to a higher or lower voltage potential of the power DC voltage source (5) or are electrically separated from both potentials,~~

~~- having a main control unit (4) which is electrically connected to the phase connections and to the power control unit (6), and whereby said main control unit (4) controls the power control unit (6), as a function of an electrical induction signal (U1) induced in a~~, being the signal phase ~~(P1) of the motor)~~, induced by the rotation of the rotor, in such a way that the phases dependent on the relative rotational position of the rotor are electrically connected in cyclic sequence~~(P1, P2, P3, to Pn or Pn, to P3, P2, P1)~~, and offset in time, for ~~a~~one commutation interval in each case, alternating between a higher or lower voltage potential of the ~~power~~motor DC voltage source ~~(5))~~, or are electrically separated from both voltage potentials, and ~~characterized by~~

- ~~a capacitive interference suppression component (CR), arranged~~ such that immediately between the external phase connection ~~(V1)~~ of the signal phase ~~(P1) on which the induction signal (U1) is present~~ and the external phase connection ~~(V2 or Vn) of one of the adjacent phases (P2 or Pn) in the electrical cycle, the interference~~

~~suppression component (CR) acting as part of a bridge circuit in which the signal)~~, and only between these two phase ~~(P1) forms the measuring bridge, and the bridge circuit~~ connections, a capacitive interference suppression component ~~(CR)~~ is arranged and acts as part of a bridge circuit comprising ~~having the following components~~:

a) both ~~the~~ phases ~~(P2 and Pn)~~ arranged adjacent to the signal phase ~~(P1)~~,

b) a spurious total capacitance ~~($2xC_P$)~~ of the electronic components ~~(C_P)~~ of the power control ~~which are~~ assigned to the signal phase,

c) the signal phase ~~(P1)), which~~ arranged to form the measuring bridge, and

d) the interference suppression component ~~(CR)), which is so~~ dimensioned such that the bridge circuit is balanced.

2. (currently amended) ~~Circuit~~ The circuit arrangement according to claim 1, ~~characterized by~~further comprising a pulse width generator arranged to ~~which~~ provides pulse-width modulated control signals ~~that are used to make~~for use in making the electrical connection between the phases and the higher or lower potential of the power DC voltage source during the commutation interval with pulse-width modulation in a variable pulse-width ratio.

3. (currently amended) ~~Circuit~~ The circuit arrangement according to claim 1 ~~or 2~~, ~~characterized by~~further comprising a half-wave differential amplifier unit with filter function, connected input-side to the phase connections ~~(V1, V2 and Vn)~~ of the signal phase ~~(P1)~~ and both adjacent phase ~~(P2 and Pn)~~ in the electrical cycle, and having an output-side signal line ~~(DA1)~~, on which an evaluation signal ~~(us)~~ is present, which is proportional to the induction signal ~~(U1)~~ of the signal phase ~~(P1)~~.

4. (currently amended) ~~Circuit~~ The circuit arrangement according to ~~one of the~~ claims 1 ~~to 3~~, ~~characterized by~~further comprising:

- -a gate generator which is connected to the signal phase ~~(P1)~~ or to a signal line ~~(VS)~~ on which the induction signal ~~(U1)~~ or the evaluation signal ~~(us)~~ is present, and

- ~~which~~ wherein the generator is arranged to serves to mask the induction signal ~~(U1)~~ or the evaluation signal ~~(us)~~ in accordance with an open-window control signal ~~(owd),~~

and defining a period of observation in the electrical cycle in which the evaluation signal ~~(us)~~ can be measured.

5. (currently amended) ~~Circuit~~ The circuit arrangement according to claim 4, ~~characterized by~~further comprising a signal generator for the open-window control signal ~~(owd)~~, the signal generator being

~~- which is~~ connected in an input-side to the signal line on which the evaluation signal is present, and to the main control unit~~(4)~~, and wherein by means of which the open-window control signal ~~(owd)~~, in accordance with a no-load signal ~~(nss)~~ which is proportional to the evaluation signal ~~(us)~~ present on the signal line, and also by means of a state-window signal ~~(swd)~~ generated by the control unit, is set, the minimum duration of the period of observation being predefined by the state-window signal ~~(swd)~~ from the control unit.

6. (currently amended) The ~~C~~circuit arrangement according to ~~one of the claims 1 to 5~~claim 1, ~~characterized by~~ further comprising a position detector for generating a position signal, the position detector being arranged to be ~~(up)~~ ~~- which is~~ connected in an input-side to the signal phase ~~(P1)~~ or the signal line ~~(VS)~~ on which the induction signal ~~(U1)~~ or the evaluation signal ~~(us)~~ is present, and to at least one further signal line on which a threshold signal ~~(ut)~~ is present, wherein —the position signal ~~(up)~~ that is present on the signal output ~~(PA1)~~ of the position detector ~~being~~ is dependent on the comparison of the induction signal ~~(U1)~~ or the evaluation signal ~~(us)~~ with the predetermined threshold signal ~~(ut)~~.

7. (currently amended) The ~~C~~circuit arrangement according to claim~~s 4 and~~ 6, ~~characterized by~~ further comprising:

- a threshold generator

~~- which is~~ connected in an input-side to the main control unit ~~(4)~~ and output-side to the position detector, and

- said threshold generator arranged to only ~~raising~~ raise the threshold signal ~~(ut)~~ at the start of the period of observation, depending on request signals ~~(sax)~~ from the control unit and an activation signal ~~(uta)~~.

8. (currently amended) A ~~Method~~ method for controlling a brushless, permanently excited direct current motor having a circuit arrangement for controlling ~~according to claim 1,~~ a brushless, permanently excited direct current motor, the motor having a rotor, a stator and a plurality of phases having each case an external phase connection, the method comprising the steps of:

- electrically connecting ~~the~~ phases dependent on ~~the~~ relative rotational position of ~~the~~ a rotor ~~being electrically connected~~ in cyclic sequence ~~(P1, P2, P3, to Pn or Pn, to P3, P2, P1),~~ and offset in time, for a commutation interval in each case, alternating between a higher or lower voltage potential of a power DC voltage source ~~(5),~~ or being electrically separated from both potentials,

- determining ~~the~~ a relative rotational position of the rotor ~~being determined~~ only with ~~the~~ an aid of the induction signal ~~(U1)~~ which is present on the signal phase, and ~~characterized in that~~

- arranging ~~the~~ an electrically capacitive interference suppression component to act ~~acting~~ as part of a bridge circuit, ~~is balanced, and has the following components~~ comprising:

a) ~~—~~ both ~~the~~ phases ~~(P2 and Pn)~~ adjacent to the signal phase,,

b) ~~—~~ a spurious total capacitance ~~(2xC~~$_P$~~)~~ of the electronic ~~switches~~ components of the power control ~~which are~~ assigned to the signal phase ~~(P1),~~, and

c) ~~—~~ the signal phase ~~(P1) itself)~~ which forms the measuring bridge, and

~~d) the electrically capacitive~~ the -interference suppression component ~~(CR) and in which the signal phase (P1) forms the measuring bridge, being so~~ is dimensioned such that the bridge circuit is balanced~~, for which reason~~ and such that the interfering influences on the induction signal ~~(U1)~~ caused by the electronic switches ~~(Cp)~~ of the signal phase ~~(P1),~~ are compensated for by the interference suppression component.

9. (currently amended) ~~Method~~ The method according to claim 8, ~~characterized in that~~ wherein the electrical connection between the phases ~~(P1, P2, P3,...Pn)~~ and the higher or lower potential of the power DC voltage source ~~(5)~~ is made during the commutation interval with pulse-width modulation in a variable pulse-width ratio.

10. (currently amended) The ~~M~~method according to claim 8~~ or 9~~, ~~characterized~~ wherein ~~that~~ the induction signals ~~(U1, U2 and Un)~~ of the signal phase ~~(P1)~~ and the two adjacent phases ~~(P2 and Pn)~~ in the electrical cycle are linked together by circuitry or by a computer program in the control unit in such a way that high-frequency interfering influences superimposed on the induction signal are filtered out, resulting in an evaluation signal ~~(us)~~ expressed by the relationship

$$us = \left(\frac{n-1}{n}\right) \cdot U1 - \frac{1}{n} \cdot \sum_{\omega=1}^{n} U_{\omega}$$

wherein said signal being referenced to the 0V potential of a circuit DC voltage source~~ (3),~~ is used to supply electrical power to the circuit arrangement, where n represents the number of phases and U_{ω} the induction signal on the phase concerned.

11. (currently amended) The ~~M~~method according to ~~one of the claims 8 to 10~~claim 8, wherein ~~characterized in that~~ the induction signal ~~(U1)~~ of the signal phase ~~(P1)~~ or the evaluation signal~~ (us)~~, in accordance with an open-window control signal ~~(owd)~~ is overlaid with a potential of the circuit DC voltage source~~ (3)~~, for which reason a period of observation is defined in relation to time, in the region of which the induction signal, ~~(U1)~~ the signal phase ~~(P1)~~ or the evaluation signal ~~(us)~~ can be measured.

12. (currently amended) The ~~M~~method according to claim 11, ~~characterized in that~~wherein the open-window control signal~~ (owd)~~, in accordance with a no-load signal ~~(nss)~~ which is proportional to the induction signal ~~(U1)~~ of the signal phase ~~(P1)~~ or to the evaluation signal~~ (us)~~, and also by means of a state-window signal ~~(swd)~~ generated by the control unit, is set, the minimum duration for which the open-window control signal ~~(owd)~~ remains set being predefined by the state-window signal ~~(swd)~~ from the control unit.

13. (currently amended) The ~~M~~method according to ~~one of the claims 8 to 12~~claim 1, wherein~~, characterized in that~~ the position signal ~~(up)~~ results from comparison of the induction signal ~~(U1)~~ of the signal phase ~~(P1)~~ or the evaluation signal ~~(us)~~ with a predefined threshold ~~(ut)~~ within the period of observation~~,~~ and a switching signal

~~(uss) being~~ is generated only when the value drops below the threshold ~~(ut)~~ for a predefined interval, the value of said switching signal exceeding the response threshold of a switching element ~~(ST),~~ for which reason the position signal ~~(up)~~ is generated at its output.

14. ~~Method~~ The method according to claim 13, ~~characterized in that~~ wherein the desired value of the threshold ~~(ut)~~ is adjustable within a range, dependent on control signals ~~(sax)~~ of the control unit, and the induction signal ~~(U1)~~ or the evaluation signal ~~(us)~~ falls below the threshold ~~(ut)~~ within the period of observation in the electrical cycle sooner in the case of a higher threshold and later in the case of a lower threshold.

15. (currently amended) ~~Method~~ The method according to ~~one of the claims 13 or 14~~claim 13, wherein~~, characterized in that~~ the threshold ~~(ut)~~ is raised with delay to its desired value only at the start of the period of observation, depending on an activation signal ~~(uta)~~, thus preventing a premature fall below the threshold.

16. (currently amended) ~~Method~~ The method according to claim 15, ~~characterized in that~~ wherein the open-window control signal ~~(owd)~~ is used as an activation signal ~~(uta)~~.

17. (cancelled).